No. 11-2007 MONTHLY PACIFIC ENSO DISCUSSION FOR MICRONESIA AND AMERICAN SAMOA

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The Pacific ENSO Applications Center (PEAC) disseminated its fourth quarter 2007 Newsletter (refer to http://www.soest.hawaii.edu/MET/Enso.html). This Discussion complements the quarterly Newsletter. The Climate Prediction Center (CPC) stated the following in its November 8, 2007 *ENSO Diagnostic Discussion* (http://www.cpc.ncep.noaa.gov): "**La Niña will likely continue into early 2008.**" In addition, the CPC noted: "La Niña continued to strengthen during October 2007, as equatorial sea surface temperature (SST) anomalies became increasingly negative from 170ºE to the South American coast." SSTs were 0.5ºC to 1.0ºC below average near the International Date Line. In addition, below-average upper-ocean heat content in the central and eastern equatorial Pacific, stronger than average low-level easterly winds in the central equatorial Pacific, and enhanced convection over the far western Pacific were observed. CPC stated: "Collectively, these oceanic and atmospheric conditions reflect La Niña."

Nearly all of the latest climate forecast models predict a continued pattern of below-average equatorial SSTs in the central Pacific into early 2008. CPC noted that at least half of the models indicate at least a moderate La Niña through December.

La Niña conditions are consistent with the observed atmospheric patterns in the western North Pacific. For example, tropical cyclone activity to-date has been below normal and displaced to the north and west. Likewise, monsoon activity has been constrained to the western part of the basin and the monsoon trough has been reverse-oriented (oriented from the northeast to the southwest). Rainfall activity has increased over Micronesia, especially the western half.

In October, the South Pacific Convergence Zone shifted eastward to the Samoa region, bringing copious amounts of rainfall to the region. Overall, rainfall over the Samoa area for the next few months should be average to above average, but high month-to-month variability is expected as the South Pacific Convergence Zone vacillates east and west. Trade winds should continue to dominate the flow in eastern Micronesia (Pohnpei and eastward), but a strengthening trade wind trough will bring rainfall amounts up to normal. The westward spread of cooler equatorial SSTs will reduce equatorial rainfall east of 145ºE. Residents of Kapingamarangi should implement water conservation measures. Monsoon and tropical storm activity will be more prevalent in western Micronesia, and these areas will see average to above average rainfall. Chuuk and the Marianas will have near average rainfall, with high month-to-month variability. Palau will see an increased threat of tropical cyclones, but the storms will likely not reach typhoon intensity before passing the islands. The strong easterly trade winds will keep sea levels 4" to 8" above normal for the next few months in the western Pacific and in the Samoa region.

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